

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference PN0368-PCT	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/NO2004/000287	International filing date (day/month/year) 28/09/2004	(Earliest) Priority Date (day/month/year) 29/09/2003
Applicant AMERSHAM HEALTH AS		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 6 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.



The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).



With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☒ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,



the text is approved as submitted by the applicant.



the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,



the text is approved as submitted by the applicant.



the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. _____



as suggested by the applicant.



as selected by this Authority, because the applicant failed to suggest a figure.



as selected by this Authority, because this figure better characterizes the invention.



none of the figures is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/NO2004/000287

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K49/00 A61K47/48

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, CHEM ABS Data, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	MARTEN K ET AL: "DETECTION OF DYSPLASTIC INTESTINAL ADENOMAS USING ENZYME-SENSING MOLECULAR BEACONS IN MICE" GASTROENTEROLOGY, W.B.SAUNDERS COMPANY, PHILADELPHIA, US, vol. 122, no. 2, February 2002 (2002-02), pages 406-414, XP008044304 ISSN: 0016-5085 page 406, column 1 page 408, column 2; figure 1 see discussion ----- -/--	1-12



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

5 April 2005

Date of mailing of the international search report

14/04/2005

Name and mailing address of the ISA

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Fax: (+31-70) 340-3016

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Gonzalez Ramon, N

INTERNATIONAL SEARCH REPORT

International Application No
PCT/N02004/000287

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/26776 A (NYCOMED IMAGING AS; CUTHBERTSON, ALAN; AMERSHAM HEALTH AS) 4 April 2002 (2002-04-04) page 23, paragraph 5 - page 24, paragraph 1 page 17, lines 1,2 page 3, line 4 page 6, paragraphs 3,4 -----	1-4,6-12
Y	WEISSLEDER R ET AL: "IN VIVO IMAGING OF TUMORS WITH PROTEASE-ACTIVATED NEAR-INFRARED FLUORESCENT PROBES" NATURE BIOTECHNOLOGY, NATURE PUBLISHING, US, vol. 17, no. 4, April 1999 (1999-04), pages 375-378, XP001164273 ISSN: 1087-0156 page 377, column 2, paragraph 1 -----	1-12
Y	MCCABE R T ET AL: "CHARACTERIZATION OF BENZODIAZEPINE RECEPTORS WITH FLUORESCENT LIGANDS" FASEB JOURNAL, FED. OF AMERICAN SOC. FOR EXPERIMENTAL BIOLOGY, BETHESDA, MD, US, vol. 4, no. 11, 1990, pages 2934-2940, XP008044306 ISSN: 0892-6638 see discussion abstract; figure 1 -----	1-12
Y	REBECA ERLICH ET AL: "Biologic and targeted therapies" IDRUGS, vol. 5, no. 6, 2002, pages 503-507, XP002323224 page 506, column 2, paragraph 2 -----	1-12
A	WO 02/32464 A (MALLINCKRODT INC; ACHILEFU, SAMUEL; RAJAGOPALAN, RAGHAVAN; DORSHOW, RI) 25 April 2002 (2002-04-25) figures 4,6,10a,10b; examples 7-9 -----	1-12
A	WO 02/20610 A (MALLINCKRODT INC; SCHMIDT, MICHELLE, A; ERION, JACK, L; SRINIVASAN, AN) 14 March 2002 (2002-03-14) page 13; claims 1,3,6,8,11,13,26 -----	1-12
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P,X	FRANCESCO DI A M ET AL: "SYNTHESIS AND BIOLOGICAL EVALUATION OF NOVEL DIAZIRIDINYLQUINONE-ACRIDINE CONJUGATES" ANTI-CANCER DRUGS, RAPID COMMUNICATIONS, OXFORD, GB, vol. 14, no. 8, September 2003 (2003-09), pages 601-615, XP008044286 ISSN: 0959-4973 page 608; table 2 abstract	1-8
P,X	----- WO 2004/062568 A (AMERSHAM HEALTH AS; SOLBAKKEN, MAGNE; ENGELL, TORGRIM; WADSWORTH, HARR) 29 July 2004 (2004-07-29) page 4; examples 2,7	1-8, 10-12
E	----- WO 2005/003166 A (AMERSHAM HEALTH AS; CUTHBERTSON, ALAN; INDREVOLL, BAARD; SOLBAKKEN, MA) 13 January 2005 (2005-01-13) page 2, line 25; claims 12,13 abstract page 13 - page 15 -----	1-12

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/N02004/000287

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0226776	A	04-04-2002	AU 9245601 A	08-04-2002
			CA 2420577 A1	04-04-2002
			CN 1462276 A	17-12-2003
			EP 1358206 A2	05-11-2003
			JP 2004509975 T	02-04-2004
			WO 0226776 A2	04-04-2002
			NO 20031323 A	24-03-2003
			US 2003176639 A1	18-09-2003
WO 0232464	A	25-04-2002	US 6656451 B1	02-12-2003
			AU 1309902 A	29-04-2002
			CA 2425703 A1	25-04-2002
			EP 1326648 A1	16-07-2003
			JP 2004513893 T	13-05-2004
			WO 0232464 A1	25-04-2002
			US 2004202611 A1	14-10-2004
WO 0220610	A	14-03-2002	AU 8884701 A	22-03-2002
			WO 0220610 A2	14-03-2002
WO 2004062568	A	29-07-2004	WO 2004062568 A2	29-07-2004
WO 2005003166	A	13-01-2005	WO 2005003166 A1	13-01-2005

INTERNATIONAL SEARCH REPORT

International Application No

PCT/N02004/000287

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Name and mailing address of the ISA

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Authorized officer

Gonzalez Ramon, N

INTERNATIONAL SEARCH REPORT

International Application No
PCT/N02004/000287

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E	----- WO 2005/003166 A (AMERSHAM HEALTH AS; CUTHBERTSON, ALAN; INDREVOLL, BAARD; SOLBAKKEN, MA) 13 January 2005 (2005-01-13) page 2, line 25; claims 12,13 abstract page 13 - page 15 -----	1-12

INTERNATIONAL SEARCH REPORT

International application No.
PCT/N02004/000287

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 10-12 are directed to a diagnostic method practised on the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/N02004/000287

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0226776	A	04-04-2002	AU 9245601 A	08-04-2002
			CA 2420577 A1	04-04-2002
			CN 1462276 A	17-12-2003
			EP 1358206 A2	05-11-2003
			JP 2004509975 T	02-04-2004
			WO 0226776 A2	04-04-2002
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WO 0232464	A	25-04-2002	US 6656451 B1	02-12-2003
			AU 1309902 A	29-04-2002
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			EP 1326648 A1	16-07-2003
			JP 2004513893 T	13-05-2004
			WO 0232464 A1	25-04-2002
			US 2004202611 A1	14-10-2004
WO 0220610	A	14-03-2002	AU 8884701 A	22-03-2002
			WO 0220610 A2	14-03-2002
WO 2004062568	A	29-07-2004	WO 2004062568 A2	29-07-2004
WO 2005003166	A	13-01-2005	WO 2005003166 A1	13-01-2005